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somewhat granular, fine, pinkish, translucent quartz, abundant; and greenish-black mica sparsely scattered in blotches made up of very fine flakes. In places thin, light green epidote-colored seams occur.

"Though this granite may be somewhat difficult to obtain in dressable masses, it would probably make a very handsome and durable building and ornamental stone."

Cover and box were quarried from the same ledge of stone; in other words, the original was a monolith in the quarry. For ease of working, however, and in accordance with custom and usage, this monolith was cut up into pieces approximating to finished sizes before being sent from the quarry. About six months were needed to complete the work after it was begun.

It its entirety the sarcophagus weighs seventeen thousand pounds; the largest piece weighs nine thousand pounds. Its entire length is ten feet four inches; it is five feet six inches wide and four feet eight inches deep.

The pedestal on which it rests is made of dark gray granite from Quincy, Mass.

A fragment of the sarcophagus, analyzed by the writer, was found to have the following composition:

	Per cent.
Silica, SiO_2	75.40
Aluminum oxide, Al_2O_3	11.34
Iron oxide, Fe_2O_3	4.16
Calcium oxide, CaO	0.90
Potassium oxide, K_2O	6.44
Sodium oxide, Na_2O	1.76
	100.00.

Its specific gravity ($17.5^{\circ}\text{C}.$) is 2.635. The stone is a true granite, accepting as such granite having for its essential constituents quartz and potash feldspar. The feldspar is orthoclase, in which some of the potassium is replaced by sodium.

Mausolæum and sarcophagus were erected under the direction of C. W. Can-

field, Esq., of the New England Monument Company, to whose courtesy the writer is indebted for the details given and for the fragment of the sarcophagus subjected to analysis.

FERDINAND G. WIECHMANN.

BOTANICAL NOTES.

BOTANICAL ACTIVITY IN JAPAN.

A RECENT bulletin of the Imperial University of Tokyo (College of Agriculture Bull., Vol. III., No. 3) indicates a degree of activity in the study of botanical problems which must challenge the respectful attention of botanists in Europe and America. It is not too much to say that the papers which appear in this bulletin are of a higher order of merit than are the papers in most of the similar bulletins from American universities, or colleges of agriculture. The titles alone are sufficient to indicate the high scientific value of the bulletin: 'On the origin of sake yeast (*Saccharomyces sake*)', 'Note on a grape wine fermented with sake yeast,' 'On the behavior of yeast at a high temperature,' 'On two new kinds of red yeast,' 'On Brom-albumin and its behavior to microbes,' 'On an important function of leaves,' 'On the behavior of active albumin as a reserve material during winter and spring,' 'On the physiological action of neutral sodium sulphite upon phænogams,' 'On the poisonous action of ammonium salts upon plants.' The most important paper is probably that by M. Suzuki on a function of leaves, in which the author summarizes the results of numerous experiments as follows: "The conclusion seems justified that reserve proteids in the leaves are decomposed into amido-compounds during the night, and the latter are transported from the leaves to the other parts of the plant. The migration of amido-compounds appears to proceed rapidly, as I have found no large quantity in the leaves

gathered in the morning. Thus an important function of the leaves is positively established. This function consists in facilitating the formation of proteids in all parts of the plants by the assimilation of nitrates, yielding thereby amido-compounds which are in all probability better sources for proteid formation than nitrates, in organs poorer in sugar and with a less energetic respiration process. A great advantage is thus gained for the stems, roots and fruits, in which the conditions for nitrate assimilation are less favorable than in the leaves. These amido-compounds produced are either asparagin, which, as I have shown in a former article, can be formed synthetically from ammonium salts as well as from nitrates, or they are the decomposition products of proteids formed in the assimilation of nitrates."

A BROADER STUDY OF LOCAL FLORAS.

It is a hopeful sign of a broadening conception of the work of the local botanist that we see in a recent plant catalogue issued by Professor McClatchie and entitled the 'Seedless Plants of Southern California.' We have so long been familiar with plant catalogues which include nothing more than the flowering plants, often innocently regarded by their compilers as quite completely representing the flora, that it is refreshing to find one in which the flowerless plants are enumerated, while the flower-bearing species are omitted.

Not content with such a departure from time-honored custom, the author prefaces his work with a descriptive synopsis of the classes and orders and freely introduces handy artificial keys to the genera, thus departing still more from the old-style treatment. The synopsis of the plant groups shows that the author has been more than a mere cataloguer of forms. He has been a student of the groups of which the species are representatives. Accordingly

we find that the sequence and limitations of classes and orders are considerably different from those of the ordinary text-books. For this the author has been criticized by some botanists, but we cannot agree with these critics. It will be far better for botany when local students put more rather than less thought into their work, and, instead of deprecating their attempts to make improvements in the general system, we should rather welcome them as hopeful indications that the day of the old-time compiler of bare lists of species, following blindly the prevailing system, is drawing to a close.

In the smaller matters, also, this list is strictly modern, as in the consistent use of metric units in all measurements, the de-capitalization of all specific names, the use of trinomials (for varieties), the omission of the comma after the specific name, and the double citation of authorities in the case of species which have been removed from the genera in which they were first described.

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NOTES ON INORGANIC CHEMISTRY.

THE *Jahrbuch für Mineralogie* contains further investigations, by C. Doepler, on the permeability of minerals for the X-rays. Phenacite (silicate of glucinum) is almost perfectly transparent, even more so than boric acid. Olivine and zoisite are, like calcite, almost opaque; vesuvianite slightly less so. Diopside and hiddenite, like topaz, are half transparent. Sphene is almost opaque, sapphire almost transparent, the ruby hardly less so. A close relationship appears between the atomic weights and the permeability to the X-rays.

ACCORDING to L. Davy in the *Comptes Rendus*, all authors who have studied the ancient working of tin in the west of Eu-